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Teller

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(54) **ADAPTIVE CROSS CORRELATOR**

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(57) **ABSTRACT**

A system and method are provided for an adaptive filter that is especially useful for sonar signal processing. The beam outputs of a conventional beamformer are provided as inputs to adaptive notch filters in accord with the present invention. The outputs of the plurality of adaptive notch filters are applied to a standard cross correlation process. In each of the adaptive notch filters, the beam outputs are split into two paths and in one path are applied directly to a signal combiner. In the second path, the beam outputs are delayed. The delayed beam outputs are applied to an adaptive finite impulse response filter, the output of which is an estimate of the narrowband interference contained within the beam output. The narrowband interference is then suppressed in the signal combiner prior to application to the standard cross correlation process.

12 Claims, 3 Drawing Sheets